CASE REPORT

Conservative Laparoscopic Management of Ovarian Teratoma Torsion in a Young Woman

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Benign cystic tumors, specifically dermoid or mucinous cysts, are the most frequent causes of ovarian torsion. In clinical practice, adnexal torsion is usually subjected to adnexectomy to prevent embolism of thrombosed ovarian veins and its sequelae. However, this intervention is unsatisfactory for young women who want to preserve their fertility. In such situations, conservative management with untwisting of the adnexa, followed by cystectomy to preserve part of the ovary, would be a better option. In this report, we present a case of adnexal torsion due to cystic teratoma. A 25-year-old unmarried woman with lower abdominal pain and nausea was referred to our emergency room with suspicion of an ovarian mass. Ultrasonography showed a left ovarian mass measuring 9.7 × 6.5 × 6.2 cm with heterogeneous components within it. Laparoscopy showed an enlarged, dusky left ovary with torsion. Detorsion was performed and followed by cystectomy. The pathology revealed cystic teratoma of the ovary. We report this case to emphasize that untwisting of potentially viable adnexa, followed by cystectomy, in patients with adnexal torsion appears to be a safe procedure. This conservative approach should be encouraged in women of childbearing age to reduce the possibility of premenopausal loss of ovarian function. [*J Chin Med Assoc* 2005;68(1):37–39]

Key Words: laparoscopy, ovarian teratoma, ovarian torsion

Introduction

Adnexal torsion occurs in 2.7% of all gynecologic surgical emergencies, with the highest incidence in women of reproductive age.[1] Such torsion rarely involves ovarian malignancy and, traditionally, adnexectomy without untwisting of the adnexa has been the preferred intervention so that potentially thrombotic emboli from the ovarian vein can be avoided.[2,3]

Due to the lack of exact diagnostic methods, adnexal torsion is often diagnosed too late or managed by removing the adnexa. However, recent reports have advocated the conservative surgery of detorsion or unwinding, and follow-up, in which postoperative systemic thromboembolism was not observed.[3–6] The use of laparoscopic surgery, which is less invasive than traditional laparotomy, has been limited by diagnostic and technical difficulties, including determination of the nature of ovarian tumors, and spillage of cystic contents intraoperatively.[6] This report illustrates successful laparoscopic detorsion of adnexa in a young woman and presents an update of the literature.

Case Report

A 25-year-old nulligravid Chinese woman came to our emergency department with a sudden onset of severe lower abdominal pain. Physical examination showed significant left lower quadrant abdominal tenderness without peritoneal signs. Ultrasound revealed a left ovarian mass measuring 9.7 × 6.5 × 6.2 cm. Sonographically, the mass appeared complex, with solid components, focal echogenic areas, and heterogeneous content; these findings were considered consistent with benign cystic teratoma (Figure 1). No obvious blood flow was detected on Doppler studies.

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Figure 1. Sonography of the tumor: a complex mass with solid components, focal echogenic areas and heterogeneous content, compatible with cystic teratoma.

The impression was that of left ovarian cystic teratoma with torsion.

Laparoscopy was performed. Intraoperative findings revealed a normal-size uterus and an enlarged, dusky left ovary with torsion; the ovary measured approximately 9 × 7 × 6 cm. The left fallopian tube and ovary were twisted one full rotation (Figure 2). The right adnexa appeared normal. The twisted left adnexa were unwound and a cystectomy was performed. There was some spillage of intracystic contents: hair, sebum, and bone were visible inside the cyst. After hemostasis, the remaining left ovarian tissue was repositioned. Approximately 3 L of normal saline was used for irrigation of the abdominal and pelvic cavity. Postoperatively, the patient had an unremarkable clinical course. After 4 days of bed rest and observation, she was discharged. The follow-up examination 6 weeks later was unremarkable.

Discussion

Benign cystic tumors, specifically dermoid or mucinous cysts, are the most frequent cause of ovarian torsion.[1] The weight of the mass lengthens the uteroovarian ligament, which alleviates torsion. Adnexal torsion is most commonly treated by adnexectomy, when infarction and/or necrosis are diagnosed. However, the macroscopic appearance of the ovary does not correlate with the degree of ischemia.[5]

The risk of torsion with teratoma is approximately 15%.[7] The reason may be the high fat content of teratomas, causing them to float in the peritoneal cavity, promoting twisting or torsion of the adnexa with trunkal movement or physical activity. Torsion of the ovarian suspensory ligament may be partial if the teratoma rotates slightly, or complete if the rotation totally occludes blood supply to the ovary. Ischemia of the adnexal tissue leads to acute pain and adnexal edema due to venous and lymphatic engorgement. Tissue necrosis of the twisted adnexa occurs rapidly, and adnexectomy is usually required.

Once torsion of cystic teratoma is diagnosed, immediate surgery is indicated. Laparoscopic procedures are preferred for the diagnosis and treatment of cystic teratoma, and both untwisting of the torsed adnexa and adnexectomy can be performed by laparoscopy. The surgeon's experience and the short interval from abdominal pain to treatment may contribute to the successful conservative management of twisted cystic teratoma. We prefer conservative treatment, especially for young women in their reproductive years, intending to preserve the ovary. There is no valid clinical method of predicting the viability of the twisted ovary. Shalev et al observed no increase in postoperative infectious morbidity.[8] Further, if accidental laparoscopy or laparotomy was performed after conservative management of twisted ovary, an unremarkable appearance of the ovary was noted.[9] However, cystectomy when the ovary is ischemic and edematous is technically very difficult. Some authors, therefore, recommend cystectomy after the acute episode of torsion.[3,5] Patients should be reexamined 6–8 weeks after primary intervention, when secondary surgery may be performed.

The risk of local and systemic thromboembolism after adnexal torsion is unclear. However, the feasibility of adnexal preservation can be suggested on a case-by-case basis if other risk factors for thromboembolism exist (e.g. obesity, bed-ridden patient, oral contracep-

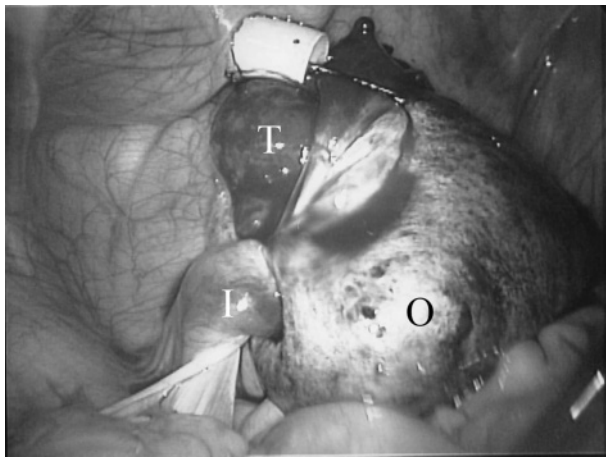

Figure 2. Laparoscopic aspect of the twisted left adnexa (intraoperative view). T = fallopian tube; I = infundibulopelvic ligament; O = twisted ovary.

tive use, pregnancy). Further, such preservation may not be worthwhile in a patient with prolonged torsion, since extensive, irreversible adnexal necrosis has been documented after torsion for longer than 48 hours.[10]

The conservative treatment of twisted ovary is a safe procedure to preserve the ovary in women during their reproductive years. Detorsion of a necrotic ovary is not associated with severe complications. Laparoscopy is the minimally invasive surgery of choice. Relevant complications have been reported in nine of 214 cases (4%) of twisted ovary, if detorsion was performed.[11] In conclusion, laparoscopic conservative surgery for adnexal torsion might be the intervention of choice in young women to preserve reproductive ability.

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